REMARKS ·

In the foregoing amendments, the claims have been renumbered appropriately in response to the claim objection. Claims 1-26 are pending in the present application.

I.   Response to Objections to the Claims

The Examiner objected to the claims as being numbered incorrectly. In response, the claims have been amended to overcome this objection. Since two claims were numbered "22", the second claim 22 and claims 23-25 have been renumbered as claims 23-26, respectively.

II.   Response to Objections to the Drawings

The Examiner objected to FIGS. 3-8 for holding the TEST-LOGIC-RESET state when TMS is "0" when it should be held for a "1". In response, the drawings have been replaced with Replacement Sheets, as attached hereto, which correctly show the logic value for holding the TEST-LOGIC-RESET state.

III.   Response to Objection to the Specification

The Examiner objected to the disclosure because of a minor informality. The specification on p. 8, line 11, has been changed by amendment herein according to the Examiner's suggestion.

IV.   Response to 35 U.S.C. §103 Rejections

Claims 1-5 and 7-9 stand rejected under 35 U.S.C. §103 as allegedly being unpatentable over *Parker et al.* (U.S. Patent No. 6,243,843) in view of *Beausang et al.* (U.S. Patent No. 6,012,155). Also, claims 6 and 10-26 stand rejected under 35 U.S.C. §103 as allegedly being unpatentable over *Parker et al.* in view of *Beausang et al.*, and further in view of Applicant's admitted prior art. Applicant respectfully traverses these rejections because the prior art references, taken alone or in combination, do not teach or suggest each and every element of the claims.

As set forth in MPEP 706.02(j), three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.

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Second, there must be a reasonable expectation of success. *Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.*

A.   Claim 1

Independent claim 1 is directed to a method of *"recovering from ground bounce during a boundary scan test."* First of all, although the references pertain to the field of "boundary scan testing", it is important to note that these references do not address *"recovering* from ground bounce" during a boundary scan test. In col. 5, lines 46-59, *Parker et al.* merely mentions the possibility of ground bounce but does not discuss solutions to the ground bounce problem, or more particularly, how to recover from ground bounce when it occurs. The present application discusses in the background section on pages 8-10 what ground bounce is and how it arises. Normally, if it is suspected that ground bounce has tainted the boundary scan test results, then the test is simply run again while implementing a ground bounce suppression algorithm. No effort to recover from ground bounce is provided in the prior art. Regarding *Beausang et al.*, this reference does not even address the issue of ground bounce, let alone recovering from ground bounce.

Claim 1 further recites *"any of at least three undetermined controller states induced by the ground bounce."* Although *Parker et al.* mentions ground bounce, this and other references do not mention the undetermined controller states induced by the ground bounce, and more particularly does not mention *"any of at least three undetermined controller states."* In contrast to the present claims, *Parker et al.* seems to teach other aspects of checking the integrity of a boundary scan test and is not concerned with the undetermined controller states induced by ground bounce. With regard to *Beausang et al.*, again, this reference does not provide any teaching with respect to ground bounce and therefore fails to overcome the deficiencies of *Parker et al.*

Returning again to the issue of recovery from ground bounce, claim 1 recites *transitioning* a TAP controller from *undetermined* controller states to a *determined* controller state. Again, the prior art fails to teach or suggest ground bounce recovery and particularly transitioning from undetermined controller states to a determined controller state, as claimed. The Office Action suggests that *Beausang et al.* teaches

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state transitions and verifying the state of the TAP controller. However, this is not what is in the claims. Rather, the claims include transitioning from an undetermined state to a determined state, wherein the undetermined states are induced by ground bounce.

Since the prior art fails to teach or suggest all of the aspects of the claims, as required in MPEP 706.02(j) for a *prima facie* case of obviousness, it would be practically impossible to combine references to arrive at the Applicant's invention unless impermissible hindsight of Applicant's invention were used to fill in the gaps where the prior art does not teach the claimed elements. Furthermore, there is clearly no motivation in the prior art itself to alter or combine references teachings in the manner suggested in the Office Action. For at least these reasons, Applicant respectfully requests that the Examiner kindly withdraw the rejection of claim 1. In addition, claims 2-8 are believed to be allowable for at least the reason that these claims depend from independent claim 1.

B.   Claim 9

Independent claim 9 is directed to a boundary scan apparatus with *"ground bounce recoverability."* Although the references pertain to the field of "boundary scan testing", the references do not address "ground bounce *recoverability*" during a boundary scan test. In col. 5, lines 46-59, *Parker et al.* merely mentions the possibility of ground bounce but does not discuss solutions to the ground bounce problem, or more particularly, recoverability from ground bounce when it occurs. *Beausang et al.* does not even address the issue of ground bounce, let alone recoverability from ground bounce.

Claim 9 further recites *"any of at least three undetermined controller states induced by the ground bounce."* Although *Parker et al.* mentions ground bounce, this and other references do not mention the undetermined controller states induced by the ground bounce, and more particularly does not mention *"any of at least three undetermined controller states."* In contrast to the present claims, *Parker et al.* seems to teach other aspects of checking the integrity of a boundary scan test and is not concerned with the undetermined controller states induced by ground bounce. With regard to *Beausang et al.* again, this reference does not provide any teaching with

respect to ground bounce and therefore fails to overcome the deficiencies of *Parker et al.*

Returning again to the issue of recoverability from ground bounce, claim 9 recites means for operationally *transitioning* a TAP controller from *undetermined* controller states to a *determined* controller state. Again, the prior art fails to teach or suggest ground bounce recoverability and particularly transitioning from undetermined controller states to a determined controller state, as claimed. The Office Action suggests that *Beausang et al.* teaches state transitions and verifying the state of the TAP controller. However, this is not what is in the claims. Rather, the claims include transitioning from an undetermined state to a determined state, wherein the undetermined states are induced by ground bounce.

Since the prior art fails to teach or suggest all of the aspects of claim 9, as required in MPEP 706.02(j) for a *prima facie* case of obviousness, it would be practically impossible to combine references to arrive at the Applicant's invention unless impermissible hindsight of Applicant's invention were used. Likewise, there is clearly no motivation to alter or combine references taught in the references in the manner suggested in the Office Action. For at least these reasons, Applicant respectfully requests that the Examiner kindly withdraw the rejection of claim 9. In addition, claims 10-16 are believed to be allowable for at least the reason that these claims depend from independent claim 9.

C. Claim 17

Independent claim 17 is directed to a boundary scan apparatus with *"ground bounce recoverability."* The references do not address "ground bounce recoverabiltiy" during a boundary scan test. *Parker et al.* mentions the possible existence of ground bounce but does not discuss solutions to the ground bounce problem, or more particularly, recoverability from ground bounce when it occurs. The present application discusses in the background section on pages 8-10 what ground bounce is and how it arises. Normally, if it is suspected that ground bounce has tainted the boundary scan test results, then the test is simply run again while implementing a ground bounce suppression algorithm. No effort to recover from ground bounce is provided in the prior art. Regarding *Beausang et al.*, this reference

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does not even address the issue of ground bounce, let alone <u>recoverability</u> from ground bounce.

Claim 17 further recites *"any of at least four undetermined controller states induced by the ground bounce."* The prior art references, taken alone or in combination, do not mention the undetermined controller states induced by the ground bounce and particularly *"any of at least four* undetermined controller states."
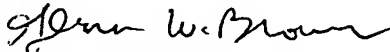
Returning again to the issue of recoverability from ground bounce, claim 17 recites a tester configured to operationally *transition* a TAP controller from *undetermined* controller states to a *determined* controller state. Again, the prior art fails to teach or suggest ground bounce recovery and particularly transitioning from undetermined controller states to a determined controller state, as claimed. The Office Action suggests that *Beausang et al.* teaches state transitions and verifying the state of the TAP controller. However, this is not what is in the claims. Rather, the claims include transitioning from an undetermined state to a determined state, wherein the undetermined states are induced by ground bounce.

Since the prior art fails to teach or suggest all of the aspects of the claims, as required in MPEP 706.02(j) for a *prima facie* case of obviousness, it would be practically impossible to combine references to arrive at the Applicant's invention unless impermissible hindsight of Applicant's invention were used. Also, there is clearly no motivation to alter or combine references taught in the references in the manner suggested in the Office Action. For at least these reasons, Applicant respectfully requests that the Examiner kindly withdraw the rejection of claim 17. In addition, claims 18-26 are believed to be allowable for at least the reason that these claims depend from independent claim 17.
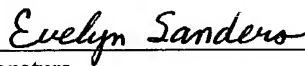
CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the pending claims 1-26 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned at (770) 933-9500.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on *11/15/04.*

Evelyn Sanders
Signature -

Attachment(s):   Replacement Sheet(s)

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